

*Serial No.: 09/817,314  
Atty. Docket No.: 123593-00106  
Reply to Office Action of May 11, 2009*

## **R E M A R K S**

In view of the above amendments and following remarks, favorable reconsideration in this application is respectfully requested.

### Telephone Interview

A telephone interview was conducted with Examiner Nguyen on September 22, 2009. The invention was discussed, as well as the prior art to *Lynde*. The present Amendment revises the claims to overcome the prior art as discussed during the telephone interview, as indicated more fully below.

### Rejection of Claims – 35 U.S.C. §103

The Examiner rejects claims 1, 8, 10, 12-20, 22-31, 36-38, and 44-45 under 35 U.S.C. §103 as being unpatentable over *Lynde* (Patent No. 6,181,302).

An important feature of claims 1 and 22 is the arrangement of identifications in a pyramid representation. In a cartographic application for example, the list of available indications may include the name of large entities, such as mountains, which are displayed at a coarser scale, and smaller sub-entities, such as huts or roads on this mountain, which are only displayed at a finer scale. In another example, the name of a village at a coarser scale is

automatically replaced by names of individual streets or highlights when the village is displayed at a finer scale.

Such a pyramid representation is not suggested in *Lynde*. *Lynde* merely discloses an ocular device having a variable magnification factor (claim 2), as correctly indicated by the Examiner. *Lynde* also discloses navigation charts which are superimposed over the real world image seen by the user over the binocular. *Lynde* does not explain what happens when the user changes the magnification factor, and whether the navigation charts are adapted to the new factor. It rather seems that annotations outside the field of view are discarded, while annotations within the field of view remain. For example, increasing the magnification in *Lynde* does not change the fact that the water at a certain location has a certain depth. (See col. 8, lines 65-67.) Organizing the identifications in a pyramid or hierarchical representation in order to adapt the list of identifications to the current scale factor is not disclosed and not even suggested in this document.

Consequently, *Lynde* must re-compute the annotations each time the magnification of the image is changed. The claimed invention, on the other hand, links common annotations with offspring annotations in a pyramid fashion. Accordingly, when the view is magnified, the offspring annotations linked with the common annotation can be readily displayed on the magnified view. Accordingly, zooming occurs much faster in the present invention than in the *Lynde* patent.

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Moreover, in *Lynde*, the annotated view is not displayed on a screen display, but merely seen through the optical system. There is no screen display in *Lynde*, and no reason to use such a screen display. Binoculars with an integrated screen display are not disclosed in *Lynde*, nor in any of the other documents, and the examiners did not give any reason for one skilled in art to modify or replace the binoculars disclosed in this device by a device having a screen display. This is not an obvious step, and not a modification which is suggested by any of the cited document.

In addition, even if for some reason one skilled in the art would try this combination, that would still not result in the claimed invention. That is, even if the combination resulted in a device having a screen display for displaying the view (which it does not), such a system would still utilize an optical system for superimposing the annotating data over this view. An optical system is required in a binocular anyway, and there is no suggestion in *Lynde* to superpose annotations other than through an optical system. Thus, the claimed digital overlay of annotating data on a display screen is entirely new.

With respect to independent claim 38, this claim relates, among other things, to the use of visual cues and computer vision for identifying elements in a view, as described for example in paragraphs [0045], [0047], [0048] and in claim 5 of the published application. To one skilled in the art, computer vision relates to machines and computers able to see and interpret and recognize what they see. Computer vision thus requires a scanner or an image sensor in order to get a digital image.

The Examiner's rejection is based on col. 4, lines 6-8 and col. 5, lines 63-64 of *Lynde*, which merely describe the use of optical images. In *Lynde*, the images of the real world are not available in digital form; they are "real world images" just transmitted through the optical system with additional overlaying information obtained through other means. (See col. 2, lines 25-27.) Applicant strongly disputes the opinion of the Examiner that "it would have been obvious to scan the optical image and provide the scanned image in digital form." The Examiner does not cite any prior art which teaches that binoculars with an integrated scanner were known, and it is not believed that binoculars with an integrated scanner were known.

Therefore, it would not have been obvious to modify the binocular of *Lynde* in order to get digital images of the real world. Such a modification would probably require at least an optical beam splitter and an image sensor, *i.e.*, bulky, complex components which are not practical to use with binoculars, especially at the time of the invention. Furthermore, the Examiner has not shown any reason why the one skilled in the art would make this modification and why he would digitally store the images seen in his binoculars.

Yet, even if the one skilled in the art would try this modification (which he would not) and add a digital image sensor in the device of *Lynde*, he would still not come to the subject matter of the invention. In particular, he would not without inventive step come to a method where "the identification of element is based on visual cues and using computer vision," as stated in claim 38.

In *Lynde*, the indications overlayed over the real world image are based on various instruments (GPS, ARPA, compass, azimuth sensor, etc.) which are readily available in a ship. Those are highly sophisticated sensors which, in combination, provide very precise information about the position and orientation of the ship and of the objects to mark. It is thus quite easy to determine the indications to overlay when those sensors are available, and there is no need for additional information retrieved with computer vision technology – especially when a digital image is not available, and difficult to get.

In fact, adding computer vision to *Lynde* is not only superfluous or difficult – it is even detrimental. The purpose of *Lynde* is to improve the safety in marine navigation by augmenting marine binoculars with information relative to hidden obstacles and other unseen hazards (col. 2, lines 8), such as submerged rocks (col. 1 line 45).

Even the best computer vision technology is useless when the elements to indicate are not visible in the field of view, such as in fog or when those elements are hidden under water. Adding computer vision technology to the binoculars of *Lynde* would not result in better identification of obstacles, and does not increase safety in a vessel. Therefore, the one skilled in the art would not add computer vision to the binocular of *Lynde*, because:

- this is not needed – there are other navigation instruments readily available in a vessel and in the system of *Lynde*, and those instruments are so precise that additional information is not required for identification of rocks, buoys and light towers;

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- this is difficult, and would add to cost and complexity – binoculars with an image sensor did not exist at the filing date;
- adding computer vision would be useless or detrimental for indicating hidden obstacles, which is the main purpose of *Lynde*.

It is respectfully submitted that the subject matter of claim 38 is therefore new and inventive over *Lynde*.

#### Claim rejection -- §112

Claims 44, 45 have been rejected as not having support in the description for the feature “automatically.” The word “automatically” has been removed from claim 44, and claim 45 has been cancelled.

The Examiner did not cite any prior art to teach a mobile phone with a camera. Using a mobile phone to capture an image and to relate elements in said image with identifications that are superimposed to the image is entirely new and does not derive from any of the documents cited. Claim 44 is therefore new and inventive.

#### New Claims

New independent claim 46 concerns an iterative method where elements in the view are first determined, based on location and orientation information provided by the camera, and where, in a subsequent step, computer vision technology is used for determining the position of

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those elements in the image, and for annotating those elements. Claim 46 has support with paragraphs 22, 41, 45, and Fig. 7, and therefore no new matter is introduced. This is in strong contrast to *Lynde*, where alignment of the overlayed information with the real image is based on accurate information and/or manual alignment (col. 6, lines 7-15), but not on computer vision.

Moreover, the step of determining the shooting orientation of the camera in mobile phone requires a mobile phone with a compass, which is additional new feature not mentioned in any of the cited documents.

New independent claim 47 is submitted. Claim 47 has support in paragraphs 41, 46 and Fig. 10, and therefore no new matter is introduced. The prior art does not teach or suggest the features recited in claim 47.

In the event there are any questions relating to this Amendment or to the application in general, it would be appreciated if the Examiner would telephone the undersigned attorney concerning such questions so that the prosecution of this application may be expedited.

Please charge any shortage or credit any overpayment of fees to BLANK ROME LLP, Deposit Account No. 23-2185 (123593.00106). In the event that a petition for an extension of time is required to be submitted herewith and in the event that a separate petition does not

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accompany this response, Applicants hereby petition under 37 CFR 1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized above.

Respectfully submitted,

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